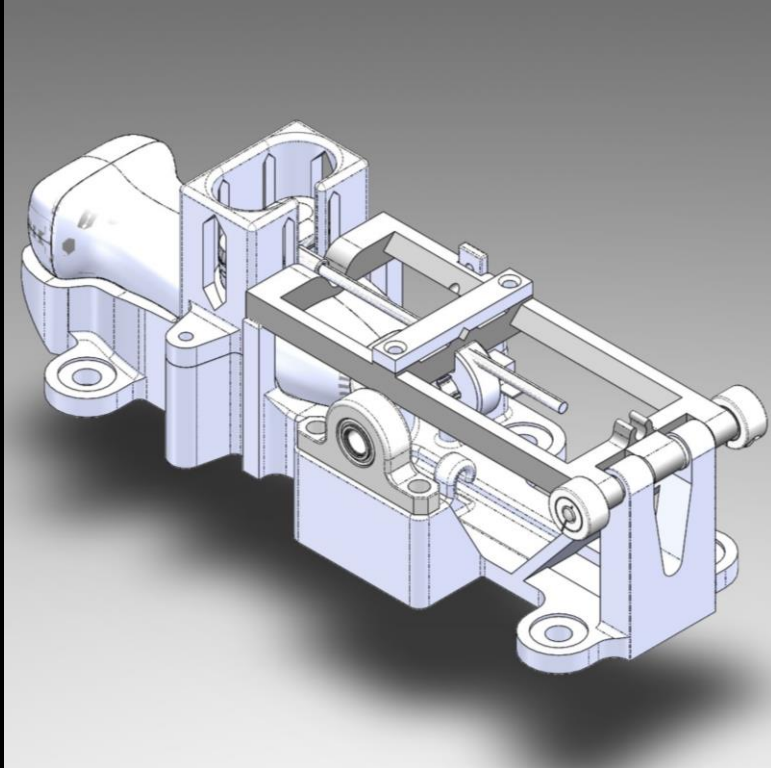




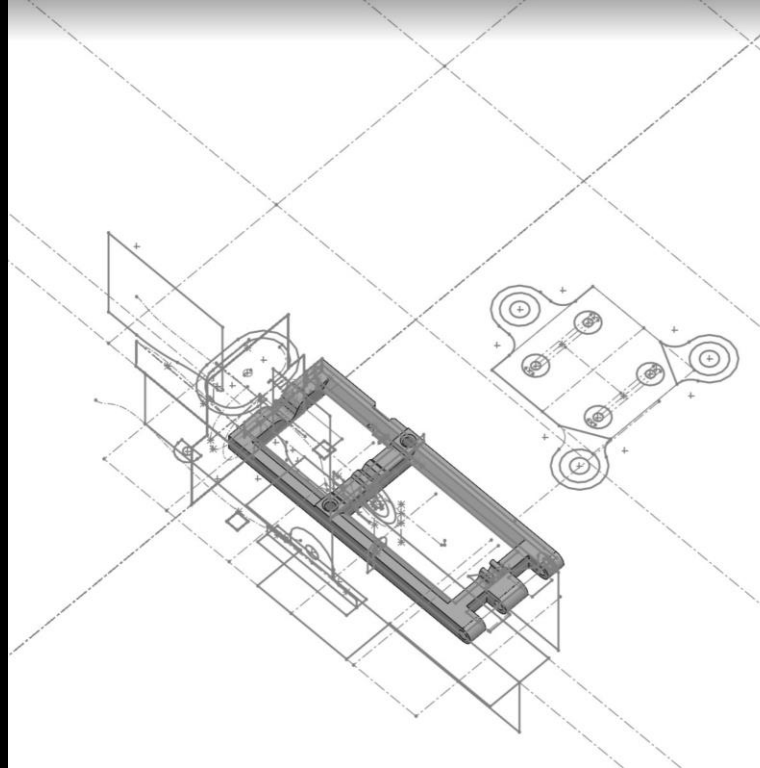
# Taylor Southwick

Mechanical Design Engineer

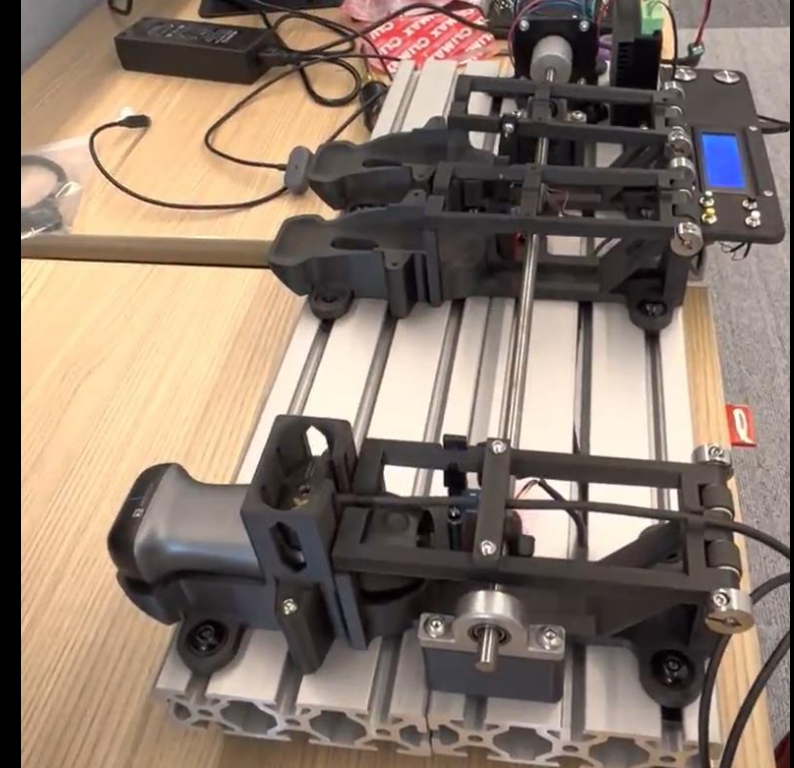
# Cycle Tester



- Designed to automate testing the contact between the charger and the probe thousands of times.
- Most important properties required were reliability, durability, and the ability to run a specific number of tests without oversight.



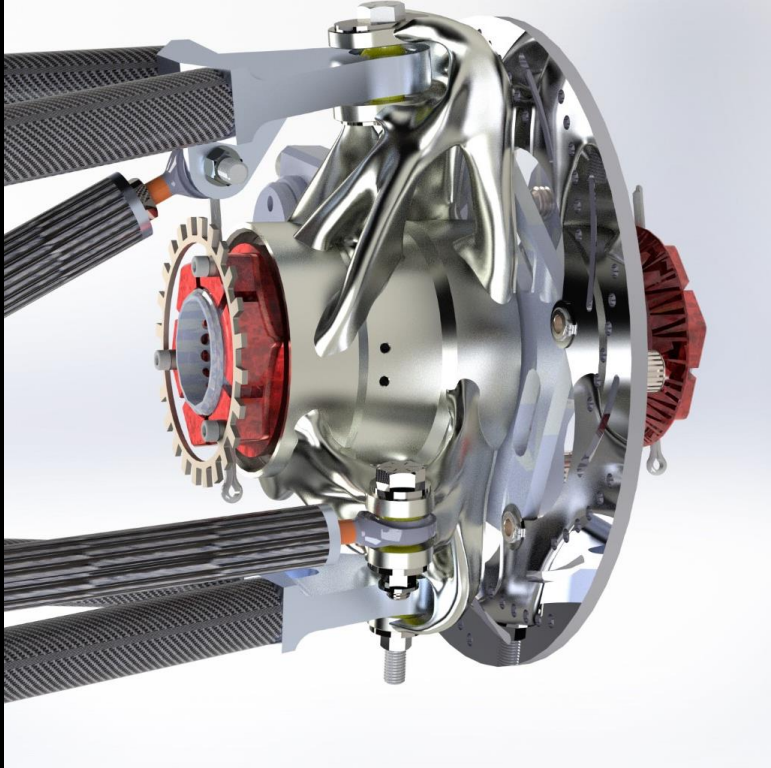
- Solidworks and Master modeling to design assembly comprised of 3D printed and off the shelf parts to create an easily adjustable assembly.
- Prototyped several design iterations to get a robust final design



- Final product runs four probes simultaneously effectively completing the testing of multiple prototypes.
- Wrote documentation written to guide future testing apparatus.



# Racecar suspension Upright



- Uprights are an essential part of any racecar, housing the hubs and holding the wheels in place via connections to the frame.



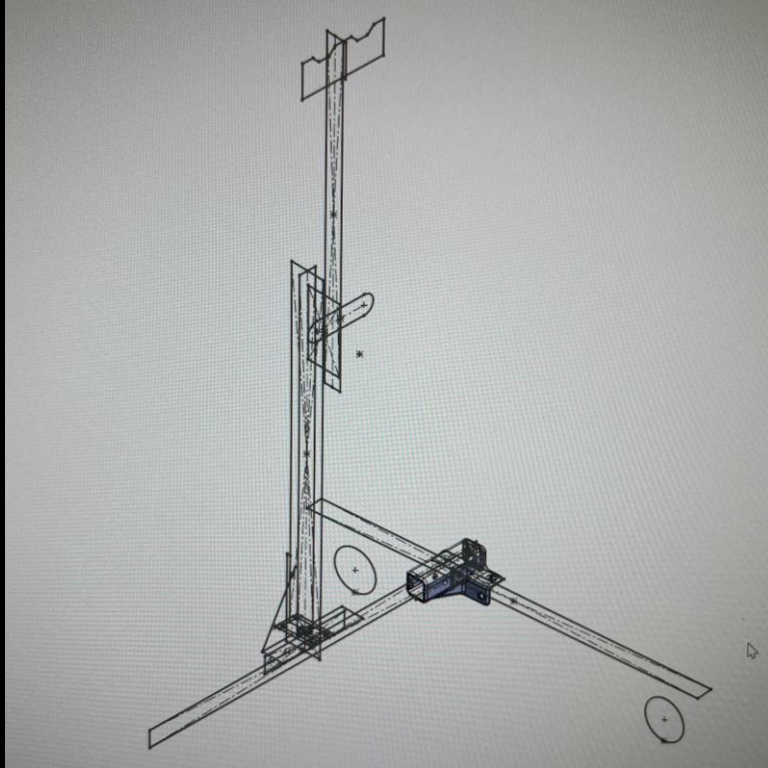
- Part was designed using generative design in Fusion 360 and verified using FEA in Ansys.
- Final model was 3D printed with AlSi10Mg and post machined for bearing surfaces, bolt holes, and tapped holes.



- Final design reduced the number of parts from the previous year's design by 96 by removing adapters required to simplify manufacturing on a 5 axis mill and simplifying the sensor mounts. The weight reduction was 7%



# Portable Wall Mount



- The goal was a portable cart which could display a wall mounted storage chest for use in prototyping, trade shows, and hospitals.



- Cart was modeled with adjustable heights for different prototypes and chests.
- Designed in Solidworks. Parts were machined, 3D printed, and off the shelf.



- Final assembly holds a 60lb chest and is fully collapsible
- Can be easily assembled and travels in an airplane-suitable case

# Machine Shop Parts

